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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/634,731	08/03/2000	Miroslav Trajkovic	US 000176	2554

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EXAMINER

NGUYEN, LUONG TRUNG

ART UNIT PAPER NUMBER

2612

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/634,731

Applicant(s)

TRAJKOVIC, MIROSLAV

Examiner

LUONG T NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 08/03/00.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claims 6, 10, 17, 21-22 are objected to because of the following informalities:

Claim 6 (line 1), “a command” should be changed to --the command--.

Claim 6 (line 4), “the particular position” should be changed to --a particular position--.

Claim 10 (line 3), “the camera height” should be changed to --a camera height--.

Claim 17 (line 1), “a command” should be changed to --the command--.

Claim 17 (lines 4-5), “the particular position” should be changed to --a particular position--.

Claim 21 (line 1), “The apparatus of claim 1” should be changed to --The apparatus of claim 12--.

Claim 22 (line 1), “The apparatus of claim 1” should be changed to --The apparatus of claim 12--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6, 8-17, 19-22, are rejected under 35 U.S.C. 102(b) as being anticipated by Palm (US 5,699,444).

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Regarding claim 12, Palm discloses an apparatus for use in calibrating a camera of a camera based image processing system (Figure 14), the apparatus comprising a processor (computer 1420, figure 14, column 15, lines 17-30) operative: (i) to present via a graphical user interface (display 1440, figure 14, column 15, lines 25-37) a representation of an area (column 15, lines 54-58) in which the camera is to be operated; (ii) to obtain calibration information for each of a set of one or more calibration points (calibrated targets or three point calibration targets in the scene of images previously captured, column 4, lines 20-40, column 7, column 6, lines 13-31) sequentially as the camera is pointed to the corresponding positions in the area and, for each of the one or more calibration points, a command (pointing and clicking on points under consideration, column 15, lines 43-46) is entered identifying a corresponding position of the calibration point within the representation of the area as presented via the graphical user interface; and (iii) to compute at least one of position and orientation information for the camera based on the calibration information obtained for the one or more calibration points (the location and orientation of the camera is identified based on calibrated target or three point calibration targets, column 4, lines 20-40); and a memory (hard drive 1423, figure 14, column 15, lines 23-27, column 6, lines 15-25) coupled to the processor and operative to store at least a portion of the calibration information.

As for claim 1, claim 1 is a method claim of apparatus claim 12. Therefore, see Examiner's comments regarding claim 12.

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Regarding claims 2 and 13, Palm discloses the set of calibration points comprises a single calibration point (a calibrated target, column 4, line 24) and the computed information comprises a pan bias for the camera (inherently included in determining the orientation of the camera).

Regarding claims 3 and 14, Palm discloses the set of calibration points comprises at least three calibration points (three point calibration targets, column 4, lines 20-40), and the computed information comprises a two-dimensional position of the camera and a pan bias of the camera (inherently included in determining the orientation of the camera).

Regarding claims 4 and 15, Palm discloses the set of calibration points comprises at least three calibration points (three point calibration targets, column 4, lines 20-40), and the computed information comprises a tilt bias of the camera (inherently included in determining the orientation of the camera).

Regarding claims 5 and 16, Palm discloses a user points the camera to a position in the area corresponding to a given one of the calibration points by adjusting at least one of a pan setting, a tilt setting and a zoom setting of the camera (tilt correction is made, column 13, lines 25-35).

Regarding claims 6 and 17, Palm discloses a user enters a command to indicate to the system that the camera is pointed to a position in the area corresponding to one of the calibration

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points, such that the obtaining step is carried out for the particular position upon receipt of the command (column 15, lines 40-46).

Regarding claims 8 and 19, Palm discloses the orientation information comprises at least one of a pan bias and a tilt bias (figures 11-12, column 14, lines 43-55).

Regarding claims 9 and 20, Palm discloses the computing step computes a pan bias for the camera using the calibration information and assuming that the camera position is known and the tilt bias is zero (inherently included in determining the orientation of the camera).

Regarding claims 10 and 21, Palm discloses the computing step computes a camera position and a pan bias for the camera using the calibration information and assuming that the camera height is known and the tilt bias is zero (inherently included in determining the orientation of the camera).

Regarding claims 11 and 22, Palm discloses the computing step computes a tilt bias for the camera after first determining a camera position and a pan bias for the camera (inherently included in determining the orientation of the camera).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7, 18, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palm (US 5,699,444).

Regarding claim 23, Palm discloses an apparatus for use in calibrating a camera of a camera based image processing system (Figure 14), the apparatus comprising the steps of presenting via a graphical user interface (display 1440, figure 14, column 15, lines 25-37) a representation of an area (column 15, lines 54-58) in which the camera is to be operated; obtaining calibration information for each of a set of one or more calibration points (calibrated targets or three point calibration targets in the scene of images previously captured, column 4, lines 20-40, column 7, column 6, lines 13-31) sequentially as the camera is pointed to the corresponding positions in the area and, for each of the one or more calibration points, a command (pointing and clicking on points under consideration, column 15, lines 43-46) is entered identifying a corresponding position of the calibration point within the representation of the area as presented via the graphical user interface; and computing at least one of position and orientation information for the camera based on the calibration information obtained for the one or more calibration points (the location and orientation of the camera is identified based on calibrated target or three point calibration targets, column 4, lines 20-40).

Palm fails to specifically disclose a storage medium for storing one or more programs for use in calibrating a camera of a camera-based image processing system. However, Palm discloses hardware utilized to carry out calibrating a camera of a camera-based image processing system (figure 14, column 15, lines 18-45). It would have been obvious to include a storage

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medium for storing software programs for use in calibrating a camera in the device disclosed in Palm in order to be able for using in any processing device.

Regarding claims 7 and 18, Palm fails to disclose the area in which the camera is to be operated comprises a room, at least a portion of which is monitored by the camera. However, Palm discloses that the camera can monitor building or a crime scene. It would have been obvious to let the camera monitors a room in order to allow the operator to view a specific area.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Glatt (US 5,526,041) discloses rail-base closed circuit T.V. surveillance system with automatic target acquisition.

Sergeant et al. (US 5,627,616) discloses surveillance camera.

Tomaszewski (US 5,918,192) discloses method for calibrating a digital camera to a PC monitor to enhance picture quality of a picture captured by the digital camera and displayed on the PC monitor.

Mathisen (US 5,930,740) discloses camera/lens calibration apparatus and method.

Tanaka (US 6,301,372) discloses camera calibration apparatus.

Arnoul et al. (US 6,594,600) discloses method for calibrating the initial position and orientation of one or several mobile cameras.

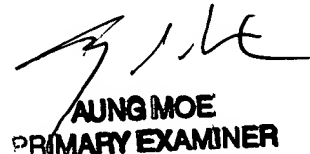
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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUONG T NGUYEN whose telephone number is (703) 308-9297. The examiner can normally be reached on 7:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LN LN
12/12/04


LUONG MOE
PRIMARY EXAMINER